Alternational code-switching in the story-telling narratives of English-Japanese bilingual children

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Alternational code-switching in the story-telling narratives of English-Japanese bilingual children

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Abstract

This study addresses the grammatical constraints on English-Japanese code-switching (CS) produced by Japanese children living in the UK. A question of interest is where in a sentence the speaker switches from one language to the other? The source of the data used in this study is audio-taped story-telling elicited in one language at a time. The monolingual context was elicited by specifying the base language in which the child would tell the story. The present paper focuses on CS observed in the English base language. The data was analyzed in the framework of alternation and insertion (Muysken, 1997, 2000). The switches observed in the Japanese base language were all characterized as the insertional type (Takagi, 2006b). This paper shows that CS tends to be alternational when the base language is English and explores where, and in what syntax contexts, alternation occurs. It is shown that symmetrical sentences are constructed as a result of matrix language (ML) alternation and it is argued that this construction is attributable to the typological properties of English and Japanese. It is also shown that alternation tends to take place at sentence boundaries. The findings in this study support the theory of 'blocking' argued by Sebba (1998). That is, where there is a high degree of incompatibility between the two languages, switching will be blocked at most points and may be limited to switching of lexical categories and inter-sentential switches.

Keywords: code-switching, English-Japanese, alternation, grammatical constraint, symmetrical sentence

1. Introduction

The study of bilingual code-switching (CS) has addressed two major issues: one is functional or pragmatic constraints, that is, why CS occurs, while the other is formal or syntactic constraints, that is, where it occurs. Although these constraints have traditionally been treated separately, researchers agree that they interact. From a sociolinguistic point of view, resear-

chers have sought to identify the factors that elicit CS and to understand the meanings and functions of CS in various communities. On the other hand, a growing number of studies have dealt with CS from a structural point of view, supposing that it is likely to take place at natural breaking points in a sentence. These studies have been particularly interested in intra-sentential CS, and have attempted to formulate the rules governing it within various frameworks (e.g., Poplack, 1980; Sankoff & Poplack, 1981; Woolford, 1983; Joshi, 1985; Di Sciullo, Muysken & Singh, 1986; Myers-Scotton, 1993[1997], 2002; Belazi, Rubin & Toribio, 1994).

This study addresses the grammatical constraints on English-Japanese CS produced by Japanese children living in the UK[1]. I am particularly interested in the question of where in a sentence the speaker switches from one language to the other. The source of the data used in this study is audio-taped story-telling elicited in one language at a time. The monolingual context was elicited by specifying the base language in which the child would tell the story. Each child told the researcher about Cinderella and Momotaro in English and then Japanese, or vice versa, while looking at picture books[2]. The present paper focuses on CS observed when English was the base language.

In my grammatical analysis of CS data, I examined whether the switches found in each base language were insertion or alternation. My previous paper (Takagi, 2006b) showed that CS can be characterized as insertional when the base language is Japanese. The switches observed in the Japanese base language were all analyzed as the insertional type. The purpose of this paper, however, is to show that CS tends to be alternational when the base language is English, and to explore where, and in what syntax contexts, alternation occurs.

2. Alternation and the equivalence constraint

Muysken (1997, 2000) suggests that there are three separate patterns of intra-sentential CS. The three patterns are: 1) insertion of material (lexical items or entire constituents) from one language into a structure from the other language; 2) alternation between structures from the two languages; 3) congruent lexicalization of material from different lexical inventories into a shared grammatical structure. These three basic processes are constrained by different structural conditions, and operate to a different extent and in different ways in specific bilingual settings. The three processes correspond to the dominant models for CS that have been proposed by researchers.

Approaches that adopt alternation as a point of departure view the constraints on CS in

terms of the compatibility or equivalence of the languages involved at the switch point. Pfaff (1979), for example, discussing a number of possible constraints regarding equivalence, states that surface structures common to both languages are favoured for switches. Poplack and her associates (Poplack, 1980; Sankoff & Poplack, 1981) proposed the equivalence constraint, which is stated as follows:

> Code-switches will tend to occur at points in discourse where juxtaposition of L1 and L2 elements does not violate a syntactic rule of either language, i.e., at points around which the surface structures of the two languages map onto each other. According to this simple constraint, a switch is inhibited from occurring within a constituent generated by a rule from one language which is not shared by another. (Poplack 1980:586)

In general, the equivalence constraint inhibits or prevents CS in contexts with word order conflict between the matrix language (ML) and the embedded language (EL). Muysken (2000) points out the possibility that alternation can take place where there is linear word order equivalence between the two languages. In situations where English co-exists with a strongly SOV and case-marked language like Japanese, possible switch boundaries are expected to be very limited. This study considers linguistic constraints in terms of production difficulty; that is, constraints are linked to the sentence production process of bilinguals.

3. Findings and Discussion

The grammatical categories of switched constituents were examined and their distribution was tabulated[3]. Out of the total number of English→Japanese switches (N=42), single nouns accounted for 11 (26%). Single noun switching, categorized as cultural borrowing and flagged borrowing (Takagi, 2006a), is the insertional type. The data constituting insertional CS can be understood according to the Matrix Language Frame (MLF) model (Myers-Scotton, 1993[1997]). The examples all accord with the principles of the ML hypothesis. All the system morphemes are drawn from the ML, English. Japanese nouns are inserted while English syntax is kept intact. In this paper, however, attention is paid to the types of alternation, which accounted for the other 74% of switches observed in the English base language.

3.1 Symmetrical sentences

Particularly interesting are sentences which consist of an English sentence combined with a Japanese one, with a shared element connecting them, as in the following example:

(1) And they gave a *kozuchi o agemashita*.
ACC give-PAST-POL
'And they gave a mallet.'

There are two sentences here: the English sentence, "and they gave a *kozuchi*", and the Japanese one, "*kozuchi o agemashita*" '(they) gave a mallet', which are combined with the shared element *kozuchi*. The final element of the English sentence (though it is a Japanese word) serves as the initial element of the Japanese sentence. This phenomenon was most frequently observed in one Japanese-dominant child, but was also observed in two English-dominant children. Here are some other examples:

(2) They made a nice name *Momotaro to tsuketan-da yo*.
QUO make-PAST sentence-final-PTL
'They made a nice name *Momotaro*.'

(3) He's been eating lots of things, *dango o tabeta kara*
ACC eat-PAST because
dakara ne, **grew up** *shita no*.
so PTL do-PAST sentence-final-PTL
'He's been eating lots of things, dumplings, so he grew up.'

(4) But he ate a *dango o tabeta kara ne,*
ACC eat-PAST because PTL
dakara ne, / he was a bit more strong.
so PTL
'But he ate a dumpling, so he was a bit stronger.'

In (2), the English sentence, "they made a nice name Momotaro", is combined with the Japanese sentence, "*Momotaro to tsuketan-da yo*", '(they) made (his name) Momotaro'. The shared element is *Momotaro*. In (3), "he's been eating lots of things *dango*", is combined with "*dango o tabeta kara dakara ne,* grew up *shita no*", 'because (he) ate *dango*, so he grew up', in which *dango* is the shared element. Grammatically, 'lots of things' and '*dango*' are in apposition. 'Grew up' is a code-switched element from Japanese to English. Here, the ML is Japanese in which the English phrasal verb 'grew up' is inserted. The ML alternated within the sentence from English to Japanese. In (4), "but he ate a *dango*", is combined with "*dango o tabeta kara ne, dakara ne,* he was a bit more strong", 'because (he) ate a dumpling, so he was a bit stronger'. The shared element is again *dango*. There is another code-switch from Japanese to English at the clause boundary after the sentence-final particle *ne*. There are two alternations in (4); the

first one is from English to Japanese and the second is from Japanese to English. The first switch to Japanese was triggered by the topic-associated word *dango*, but then the speaker switched back to the base language, English. She realized her mistake and re-oriented herself to English. Here is another example:

(5) Once upon a time a an old man and old woman lived
mori no naka ni *sunde-imashita*.
forest GEN in locative-PTL live-PAST-POL
'Once upon a time an old man and old woman lived in the forest.'

In (5), the shared element is not a single word. The two sentences, that is, the English sentence "an old man and old woman lived *mori no naka ni*", and the Japanese sentence "*mori no naka ni sunde imashita*" '(an old man and an old woman) lived in (the) forest' are combined with the Japanese *mori no naka ni* 'in (the) forest' as the shared part.

In all the examples above, the switched Japanese is a full sentence or a clause[4]. The structure of the switched Japanese part is O V in the examples (1),(3) and (4); oP (O) V in the example (2); and PP V in the example (5). In Japanese, the nominative and accusative NP can be deleted when it is recoverable from the context, so the switched parts are grammatical sentences. It is possible to say that the ML has changed from English to Japanese within a sentence; that is, ML alternation has taken place.

Another point of interest is that utterances of this type involve an expression in English which is repeated or rephrased in Japanese. In all the examples above, the underlined parts are shared elements and those with dotted lines underneath are equivalents from the two languages. As a result, these sentences have a symmetrical structure. This is called 'portmanteau construction' in Nishimura (1986)[5], while Muysken (2000) refers to it as 'doubling'. He argues that doubling can be best seen as indicative of alternation, since it involves an adjustment in the planning of the sentence. The occurrence of symmetrical sentences is attributed to the symmetry of many types of word order in Japanese and English. Smith (1978) refers to this as 'mirror-image order'. Some examples are shown in Table 1.

Table1 Some mirror-image constituent orderings in English and Japanese

English	Japanese
① V O	O V
② V Complement	Complement V
③ V O oP*1	oP O V
④ there V NP	NP V
⑤ P NP	NP P
⑥ V (COMP) S*2	S particle*3 V
⑦ V PP	PP V

*1: oP represents object-predicative.
*2: S represents sentence.
*3: This is the quotation particle *to*, which is equivalent to the English complementizer 'that'.
* ⑦ can be included in ②.

A symmetrical structure can be seen in example (6), where the shared part is extended to the level of a sentence:

(6) Old man and old lady said, "Be careful. I will *oni* *o*
demon ACC
taiji shite kuru *no* *o* *matte iru* *de naa*."
fight and come back nominalizer-PTL ACC waiting sentence-final-PTLs
to *okuri-dashi mashita*.
QUO send off-PAST-POL
'The old man and the old lady said, "Be careful! I will wait for you to come back after fighting the demons." and sent him off.'

In (6), the English sentence is combined with the Japanese sentence (the underlined part is the shared element) at the point where the speaker quotes the character's utterances. This corresponds to type ⑥ of the mirror-image order examples shown in the table above. The English part "old man and old lady said" is rephrased in Japanese as "*to okuri-dashi-mashita*" '(they) sent (him) off, saying (that)'. The structure of the switched Japanese is S + particle + V. Now let us look at the shared part in detail. There are two sentences: "Be careful." and "I will *oni o taiji-shi-te-kuru no o matte iru de naa.*", which means 'I will wait for you to come back after fighting the demons.' The second one contains CS from English to Japanese. The ML changed from English to Japanese in this quoted utterance. The sentence can be analyzed as follows:

(7) I will / [*oni o* *taiji shi te kuru* *no*] *o* (*matte iru de naa*).
ACC fight and come back nominalizer-PTL ACC waiting sentence-final-PTLs
* / represents switch site. [ ] represents object NP. ( ) represents V.

The structure of the switched Japanese above is O V, which is a full sentence with the subject in English. The alternation took place after 'will'.

The type of alternation presented so far seems to be syntactically motivated. The question of interest common to all these examples is why the speaker did not stop his/her utterance after the final English element. In the switched utterances, the speaker repeated segments which he/she had already said in English. For example, in (1), the speaker could have said as follows:

And they gave a *kozuchi.*

In this case, the single noun *kozuchi* is considered to be inserted into the ML, and the type of CS is insertional. The Japanese '*o agemashita*' is a repetition of the English 'gave', so there is no semantic need for it. Similarly, in (5), the speaker could have said simply:

Once upon a time an old man and an old woman lived *mori no naka ni.*

The switch in this case is also insertion: the entire PP of Japanese is inserted into the ML, English. The PP is an EL island which conforms to Japanese grammar but is still under the control of English, the ML. It seems that the speaker was unable to stop speaking until he/she had reached a certain point in the sentence.

Azuma (1998) explored how discourse coherence and fluency are maintained. In his CS elicitation experiment, Japanese-English bilingual subjects were instructed to code-switch immediately whenever they heard a tone while they were talking spontaneously. The tones were generated at random intervals. It was observed that many subjects did not stop their utterance immediately on hearing such a tone, although they had been instructed to do so. Instead, they delayed switching until a later point in the sentence. Furthermore, subjects often repeated what they had already said in the switched language. Azuma suggested that the speaker completed the structural chunk without switching if the chunk was a coherent, meaningful unit for him/her.

A type of utterance related to the symmetrical sentence is found in the speech of monolingual English speakers. Nishimura (1986) refers to the type of sentence shown below:

(8) That's the only thing he does is fight.

Here, the two sentences, "That's the only thing he does" and "The only thing he does is fight" are combined with the shared element, 'the only thing he does'. A similar phenomenon is that of 'syntactic blends' (Bock 1987). The following is an example:

(9) This is getting very difficult to cut this.

In (9), the possible components of this blend are "This is getting very difficult to cut" and "It is getting very difficult to cut this" (Stemberger, 1982). Butterworth (1982) discusses this kind of blending under the heading of 'alternative plan errors', i.e. errors that result from interference between alternative linguistic formulations of the same thought rather than interference from an unintended thought. Such errors suggest that different forms of expression can be activated at lower levels of processing (Bock 1987). The symmetrical sentences which I have shown may be compatible with the hypothesis that different structural realizations compete with one another in the production process. It seems to me that there is a system which is syntactically motivated and operating automatically, independent of our control. Such a system could trigger a certain type of syntactic activation in processing.

Symmetrical sentences are frequently found in quoted utterances. For example,

(10) and and some some other people thought she she ... she is very very good dancer and thought that "where who is *doko no ohimesama daroo?*"
where GEN Princess question
to omoimashita.
QUO think-PAST-POL
'and some other people thought, "She is a very good dancer" and thought, "Where is the Princess from?"'

(11) And Cinderella thought, "when you when Prince Prince knows my name and where I live, I *watashi wa sugoku komaru wa.*"
I TOP very embarassed sentence-final-PTL
to itte oojisama no soba kara hashitte-itte-shimaimashita.
QUO say Prince GEN beside from run-and-go-PAST-POL
'And Cinderella thought, "When the Prince knows my name and where I live, I will be very embarassed", and ran away from the Prince.'

Symmetrical sentences with quoted utterances as the shared parts are typically categorized as type ⑥ of the mirror-image order examples. In both (10) and (11), some repetitions and corrections are noticeable in English before CS takes place, though the child's L2 was normally fluent in the story of Cinderella. It may be that her repetition and/or self-correction indicate her sentence re-planning. It appears that she was anticipating the occurrence of the switch to Japanese. Here is another example of a symmetrical sentence:

(12) One day the Prince said to his soldiers to soldiers who soldiers to and said, "*Dareka kono kutsu ni pittari no hito o*
someone this shoe DAT perfect person ACC
tsurete-kinasai." *to iimashita.*
bring-COMMAND-POL QUO said-POL
'One day the Prince said to his soldiers, "Bring the person who perfectly fits this shoe."'

Here again, she repeats herself, which may indicate her sentence planning stage. Interestingly, just after this utterance, she used the word '*kerai-tachi*' as the equivalent of 'soldiers'. It seems that the two words, 'soldiers' and *kerai-tachi*, were competing to be selected in the process of sentence production.

3.2 Typological property: verb-final constraint

It is necessary to point out that the portmanteau structure is also used when the base language is Japanese. In the examples below, the child seems to be speaking Japanese with English word order. However, the verb is found at the end of these sentences, as is normal in Japanese grammar. The following two examples are of symmetrical sentences, whose ML is Japanese with some switches to English.

(13) Fairy *ga* *yuttan-da yo*,
NOM said sentence-final-PTL
"Come back *shinasai ne*". *tte* *yuttan-da yo*.
do-COMMAND-POL QUO said sentence-final-PTL
'The fairy said, "Please come back."'

The structure of (13) corresponds to type ⑥ of the mirror-image order examples in Table 1. The underlined part is the shared element, which is a quoted utterance of the fairy, and the parts with a dotted line underneath are repeated elements for 'said'. '*Yuttan-da yo*, "Come back *shinasai ne.*" *tte*' is the order of English, which is V (COMP) S. And '"Come back *shinasai ne.*" *tte yuttan-da yo*' uses Japanese word order, i.e. S particle V. The following example corresponds to type ①:

(14) Ugly sisters *ga* talking *shiteta-n-da yo*,
NOM doing-PAST sentence-final-PTL
about the lovely girl *o ne*, talking *shiteta-n-da*.
ACC PTL doing-PSAT
'The ugly sisters were talking about the lovely girl.'

The underlined part is the shared element, which is the object PP[6], and the parts with a dotted line underneath are repeated elements for 'were talking'. 'Talking *shiteta-n-da yo*, about the lovely girl *o ne*.' is the English order, i.e. V + O. 'About the lovely girl *o ne*, talking *shiteta-n-da*.' is the order of Japanese, i.e. O + V.

In both (13) and (14), the child is speaking Japanese with some English materials at the surface, but the basic constituent order of the sentence seems to be that of English at the more abstract level of speech production: V (COMP) S in (13) and V + O in (14). In (13), the speaker could have said simply:

(15) Fairy *ga* *yuttan-da yo*, "Come back *shinasai ne.*" *tte*.
NOM said sentence-final-PTL do-COMMAND-POL QUO

Similarly, in (14), the speaker did not need to say 'talking *shiteta-n-da*'. She could have said

simply:

(16) Ugly sisters *ga* talking *shiteta-n-da yo,* about the lovely girl *o ne.*
NOM doing-PAST sentence-final-PTL ACC PTL

It is true that the structures of (15) and (16) can be used in Japanese, as marked expressions, e.g., for pragmatic purposes, but the basic order is that of English. However, the fact was, in both cases, the sentences did not end there. The speaker seems to have wanted to complete the sentence in conformity with Japanese structure. This may be the base language effect because she was speaking in Japanese.

The typological feature of Japanese as an SOV post-positional language is that the sentence must end with a finite verb. Japanese has the very rigid constraint that finite verbs must appear in the sentence-final position (Kuno 1973). Perhaps, (15) and (16) are unstable because they violate the verb-final constraint. The occurrence of portmanteau structure is attributable to the properties of the language combination, that is, one language is SVO pre-positional while the other is SOV post-positional. Another important reason is, I suppose, the verb-final constraint of the SOV post-positional language, Japanese. Thus, this construction is only possible when the sentence starts in English. It does not occur when the sentence starts in Japanese.

3.3 Other types of alternation

Anticipational triggering takes place when a speaker is thinking ahead to what he or she is about to say, and anticipates the imminent occurrence of a trigger word (Saunders 1982). The speaker may switch from one language to the other just before reaching the word in question. This type of CS was found in an English-dominant child in my data.

(17) Then he ate a lot of things, then he grew.... um... *sore de ookiku natte*
and big become
sore de ne, obaachan to obaachan to oba... obaachan to ojiichan
and PTL grandma and grandma and gran.. grandma and grandpa
ga Momotaro ... namae 'Momotaro' tte itte
NOM name QUO say
'Then he ate a lot of things, then he grew ... um.. and he grew bigger, and grandma and grandma gran.. grandma and grandpa said his name Momotaro.'

In (17), the name 'Momotaro' functioned as a trigger word and induced the child to switch to Japanese before reaching it. Saunders (1982) pointed out that sometimes a trigger word can be anticipated prior to commencing a whole sentence or clause, causing the sentence or clause to

be uttered entirely in the other language. In the case of (17), the child started the utterance in English as normal, but as she anticipated the word 'Momotaro', she revised the sentence in advance. Her sentence re-planning can be seen in the switched Japanese, in which she repeated what she had already said in English after the filler. Frequent repetitions and corrections were noticeable in her speech. (The elements with dotted lines underneath are equivalent elements in English and Japanese.) The effect of the anticipation of the trigger word on the sentence was so strong that she was induced to switch the language, and thus ML alternation took place.

I shall now move on to consequential triggering. As I stated in an earlier paper (Takagi, 2006a), proper nouns and topic-associated words often act as trigger words. Look at the following examples:

(18) Dog said, "Can I go to *Onigashima*?" *dakara ne, anoo*
and PTL filler
kibidango o moratta.
ACC get-PAST
'The dog said, "Can I go to Onigashima?" and he got a millet dumpling.'

(19) So his his *kerai-tachi wa sono kutsu o dai no ue ni*
follower-plural TOP that shoe ACC stand GEN on locative-PTL
oite dai no ue ni oite uma ni notte
put stand GEN on locative-PTL put horse DAT get-on
machi made ikimashita.
town goal-PTL go-PAST-POL
'So his followers put the shoe on the stand, put it on the stand, got on the horse and went to the town.'

CS in (18) and (19) can be categorized as consequential triggering. The speaker reaches a trigger word and then, becoming momentarily disoriented and forgetting which language he/she is speaking, continues in the other language (Saunders 1982). In (18), the trigger word is *Onigashima*, which is a proper noun in the story. The type of CS is alternation, because the switched Japanese is a full sentence whose structure is O V with the subject uttered in English. In (19), the word *kerai* acts as the trigger word. The speaker could have switched to Japanese only for this noun, but the result was ML alternation. Just before she uttered this sentence, she had used the word 'soldiers' as the equivalent of '*kerai-tachi*'. In her sentence planning, the two words, 'soldier' and '*kerai*', were competing to be selected, but the word '*kerai*' was finally selected, which triggered switching.

Alternational CS was observed in other contexts. In the following example, it occurs when a character's utterance is quoted.

(20) And he went to a journey and then there was a dog ... came to Momotaro.
The dog said, "*Momotaro-san, Momotaro-san,*
isande doko e odekake desu?"
vigorously where goal-PTL going copula-INTER
'Momotaro, Momotaro, where are you going so vigorously?'

The switch in (20) is what is referred to as inter-CP CS (CP: projection of complementizer) (Myers-Scotton, 1998; Myers-Scotton & Jake, 1995). The switches found in (21) and (22) are also inter-CP CS, where the whole clause switches to Japanese, regardless of whether the switch starts before or after the conjunction.

(21) And ... old woman went to the river, *sore de ojiisan wa*
and old man TOP
mori ni take o kiri ni ikimashita.
forest goal-PTL bamboo ACC cut purpose-PTL go-PAST-POL
'And the old woman went to the river, and the old man went to the forest to cut bamboo.'

(22) They said, "It is looks like a nice peach. We will bring it back to our house."
and *daijini shimaikonde-okimashita.*
carefully keep-PAST-POL
'They said, "It looks like a nice peach. We will bring it back to our house."
and kept it carefully.'

In (23), the switch takes place at the sentence boundary, which is referred to as inter-sentential CS. Finally, (24) is an example in which the child switched the language in a consecutive turn.

(23) Toshi : Next she found big big peach.
Reseacher : Did she eat it ?
Toshi : No.
Researcher : What did she do ?
Toshi : Cut. *Kiroo to omotta totan dete-kita.*
will cut QUO think-PAST just when come-out-PAST
'He came out from it just when she was thinking to cut it.'

(24) Researcher : Who is he ?
Kosuke : Much much big monster.
Researcher : What do these monsters do usually ?
Kosuke : *Musume o totte. ...*
girl ACC take
'(They) take girls and .... '

In the examples above, CS was triggered by a strong topic-associated image although there were no specific trigger words.

We have seen various types of alternational CS. Once a switch occurs, the rest of the sentence continues in the other language, although further switches are also possible. When the CS is alternational, the question arises of where in the sentence the switch occurs. This question will be discussed in the following section.

3.4. Switch points

This section examines where CS occurs. In the following, the switch points are represented by a slash and the quoted utterances are in brackets. S means 'sentence'.

(25) .... said, / [*Dareka kono kutsu ni pittarino hito o tsurete-kinasai*] ....
V S

(26) The dog said, / [*Momotaro san, Momotaro san, ...?*].
V S

(27) Dog said, [Can I go to *Onigashima* ?], / *dakara ne, anoo* .....
V S and S

(28) Old woman went to the river, / *sore de ojiisan wa* .....
S and S

(29) then he grew ... um.... / *sore de ookiku natte* .....
S and S

(30) They said, [It is looks like a nice peach. We will bring it to our house.] and /
V S S
daijini shimaikonde-okimashita.
S

Three different switch points are evident. One is where the quoted sentence starts, and the others are before and after the co-ordinating conjunction 'and'. These are shown as follows:

..... V (COMP) / S　　S / and / S
　　↑　　↑　↑
　　①　　②　③

The switch site of (25) and (26) is ①, and that of (27),(28),(29) is ②, and that of (30) is ③. The three points are similar in that they are all at the sentence boundary. CS seems to be easy at the sentence boundary because the sentence is a congruent unit between the two languages.

We need to look at other alternational CS whose switch point is not at the sentence/clause boundary. In the following utterance, the switch takes place after the auxiliary 'will'.

(31) I will / *oni o*　*taiji-shi*　*ni*　　*ikitai*　　*to*　*omoimasu.*
　　ACC fight-do　purpose-PTL　go-desire-AUX　QUO　think-POL
　　(to fight)　　(want to go)　　(that)
　　'I would like to go to fight the demons.'

This sentence is analyzed as follows:

(32) I will / [　S　] *to*　*omoimasu.*
　　QUO　think

The brackets indicate a quoted utterance in Japanese. Here again, we can see the portmanteau structure. The two sentences, 'I will [S]' and '[S] *to omoimasu* ' are combined with the quoted utterance as the shared part. This structure takes the typical mirror-image constituent order, that is, V (COMP) S in English and S particle V in Japanese. We can say that English 'will' is rephrased by Japanese '*omoimasu*' (think-POL). If we take 'will' as the equivalent of Japanese '*omoimasu*' (think), the sentence structure can be analyzed as follows:

(33) I will (COMP)/ [　S　] *to omoimasu.*

The parts with dotted lines underneath are equivalent elements in English and Japanese. This structure shows that here also the switch point is at the sentence boundary. Our analysis confirms that CS tends to occur at the sentence boundary when the base language is English. Although it appears as if the switch occurred abruptly after 'will' at the surface level, it is still constrained at the conceptual level of production process. Here is another similar example:

(34) I will / *oni o taiji-shite-kuru no o matte-iru de naa.*
　　'I will wait for you to come back after fighting the demons.'

We have seen this utterance in the previous section. I stated that the switched Japanese is a full sentence, meaning '(I) will wait for (you) to come back after fighting the demons'. Actually, there is little semantic need for 'I will'. It is possible that 'I will' is rephrased as the equivalent of 'I think' or 'I intend' etc. in the production process. If so, the sentence structure can be illus-

trated as follows, and again the switch point is at the sentence boundary.

(35) I think (COMP) / [S].

Another fact to be noted is that there was no example of the Japanese phrasal structure being inserted in the English ML. Insertional CS was accomplished without ML alternation, and the insertion of single nouns was the only type of insertional CS found in the English base language. Is it the case that the insertion of Japanese phrasal constituents into an English sentence is syntactically restricted? It might be easier to change the ML to Japanese rather than incorporating Japanese phrasal constituents while keeping English as the ML. The notion of an island or chunk is not necessary for alternation to take place but 'frame restart' is required.

Sometimes the speaker started the utterance in English but needed to re-structure the sentence in Japanese. For example,

(36) ... and thought that where who is / *doko no ohimesama daroo ?*

↑ where GEN princess question-PTL

'where is the Princess from ?'

(37) when you when Prince Prince knows my name and where I live,

↑

I... / *watashi wa sugoku komaru wa .....*

I TOP very embarassed sentence-final PTL

'I would be very embarrassed.'

In (36) and (37), the point indicated by the arrow could be the switch point because it is a sentence (or clause) boundary. At this point, the speaker must choose either to produce the whole utterance in Japanese, which means 'frame re-start', or to proceed in English as the original frame-building language. At first, as is shown by the parts with dotted lines underneath, she continued her utterance in English. Then, however, she switched the whole sentence to Japanese, which means that she revised her plan while uttering English. Although re-starting the frame may have required more adjustment, she re-structured the whole sentence with less effort. This seems to have been the easier alternative for her to take rather than staying with the original framing language.

4. Conclusion

The switches observed in the English base language were categorized as either single noun switching or various types of alternation. We have seen that symmetrical sentences were con-

structed as a result of ML alternation. This construction was attributable to the typological features of the language combination, that is, one is a VO or right-branching language and the other is an OV or left-branching language. In particular, I pointed out the verb-final constraint of Japanese. We have also seen that alternation tended to take place at sentence boundaries because the sentence is a congruent unit between the two languages. The equivalence constraint is applicable to alternational CS, but the predictable switch points under the equivalence constraint are very limited due to the lack of word order equivalence between the two languages. This can be identified as 'blocking', as is argued by Sebba (1998). The findings in this study support the theory that where there is a high degree of incompatibility between the two languages, switching will be blocked at most points and may be limited to switching of lexical categories and inter-sentential switches (Sebba, 1998).

Appel and Muysken (1987) raise the question of how grammatical constraints on code-mixing, if they exist, may have psycholinguistic correlates in the sentence production system of bilingual speakers. Also, Lanza (1997) contends that CS must take account of the grammatical properties of the languages involved and also issues of language processing. We noted that there was no example of a Japanese phrasal structure being inserted into English. The insertion of phrasal constituents into English seems to be syntactically restricted. To be able to insert EL materials into the ML, there must be sufficient congruence (Takagi, 2007). If the result of congruence checking is insufficient, a compromise strategy must be taken in order for the EL material to be realized (Wei, 1999). Alternation may take place as a compromise strategy resulting from processing difficulty. More abstract analysis of the lexical structure will be necessary in order to discuss the types of CS (alternation and insertion) in terms of language processing.

Notes

1) The profiles of ten sample children are given in Takagi (2006a).

2) For the details of the data-collection procedure, please see Takagi (2006a).

3) I counted the number of types (different items) not tokens (the total items), because some items associated with the story line were used repeatedly by the same speaker.

4) Sometimes the two terms 'sentence' and 'clause' are used interchangeably in this paper, but both words refer to a structure which consists of subject and predicate, which is controlled by an independent ML.

5) Nishimura (1986) mentions a number of interesting cases of portmanteau construction in Japanese-En-

glish CS.

6) The internal structure of PP 'about the lovely girl *o ne*' is discussed in Takagi (2006b).

Appendix

The following abbreviations were used in the explanations of the examples in this paper.

ACC: accusative AUX: auxiliary COMP: complementizer DAT: dative GEN: genitive

INTER: interrogative NOM: nominative NP: noun phrase O: object oP: object-predicative POL: polite

P: pre/post-position PP: pre/post-positional phrase PTL: particle QUO: quotation

S: subject/sentence TOP: topic marker V: verb

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